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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,094	01/20/2004	Soo-Min Byun	SEC.1118	6934

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EXAMINER	
WILSON, SCOTT R	

ART UNIT	PAPER NUMBER
2826	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/759,094	BYUN ET AL.	
	Examiner	Art Unit	
	Scott R. Wilson	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-6 and 9* is/are rejected.

7)☒ Claim(s) *2,3,7 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/20/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hembree et al. in view of Hamamura et al.. As to claim 1, Hembree et al. discloses a test apparatus comprising a substrate retainer for holding a substrate having a plurality of chips (paragraph 0022), a probe card (paragraph 0019) having an array of probes aligned in rows and columns, wherein each of the probes is for contacting respective chips of the substrate held by the retainer and each includes a plurality of probe needles, a tester (70)(paragraph 0067) which conducts a test routine by generating test signals and by receiving and analyzing return signals, a test head (68)(paragraph 0068) for sending the test signals from the tester to the probe card and for sending the return signals from the probe card to the tester, and a main controller (106)(paragraph 0080). Hembree et al. does not disclose expressly a test result database used to execute a cleaning program. Hamamura et al., col. 11, lines 31-33, discloses an electrical measurement database (61) for storing measured results of probe tests. Hamamura et al. also discloses (col. 10, lines 61-65) that when the defect occurrence frequency obtained from the electrical measurement database is above a threshold value, procedures such as cleaning are performed. At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the database of Hamamura et al. with the test apparatus of Hembree et al.. The motivation for doing so would have been to shorten the development time of the devices under test (Hamamura et al., col. 1, lines 13-14). Therefore, it would have been obvious to combine Hamamura et al. with Hembree et al. to obtain the invention as specified in claim 1.

As to claim 4, Hamamura et al. discloses (col. 10, lines 61-65) that when the defect occurrence frequency is above a threshold value, procedures such as cleaning are performed.

Claims 5, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hembree et al. in view of Hamamura et al.. As to claim 5, Hembree et al. discloses a test method comprising loading a substrate retainer with a substrate having a plurality of chips (paragraph 0022), contacting probes of a probe card (paragraph 0019) having an array of probes aligned in rows and columns, wherein each of the probes is for contacting respective chips of the substrate held by the retainer and each includes a plurality of probe needles, with respective chips of the substrate, and conducting a test routine with a tester (70)(paragraph 0067) by generating test signals and by receiving and analyzing return signals. Hembree et al. does not disclose expressly storing the test data associated with each probe into a test result database and executing a cleaning program. Hamamura et al., col. 11, lines 31-33, discloses an electrical measurement database (61) formed by storing measured results of probe tests. Hamamura et al. also discloses (col. 10, lines 61-65) that when the defect occurrence frequency obtained from the electrical measurement database is above a threshold value, procedures such as cleaning are performed. At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the database of Hamamura et al. with the test apparatus of Hembree et al.. The motivation for doing so would have been to shorten the development time of the devices under test (Hamamura et al., col. 1, lines 13-14). Therefore, it would have been obvious to combine Hamamura et al. with Hembree et al. to obtain the invention as specified in claim 5.

As to claim 6, Hamamura et al. discloses (col. 10, line 67) that after determining if cleaning is necessary, the effects thereof are confirmed, which is within the scope of removing the defective substrate and reloading it, or a new substrate for further testing.

As to claim 9, Hamamura et al. discloses (col. 10, lines 61-65) that when the defect occurrence frequency is above a threshold value, procedures such as cleaning are performed.

Allowable Subject Matter

Claims 2, 3, 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. No prior art includes a database of characteristic cleaning errors to compare against the sample test data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott R. Wilson whose telephone number is 571-272-1925. The examiner can normally be reached on M-F 8:30 - 4:30 Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

srw
September 1, 2004

NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800